

**REMARKS**

Applicant thanks the Examiner for the thorough consideration given the present application.

Claims 1-19 are now present in this application. Claims 1 and 12 are independent.

Reconsideration of this application is respectfully requested.

**Information Disclosure Citation**

Applicant thanks the Examiner for considering the reference supplied with the Information Disclosure Statement filed March 2, 2004, and for providing Applicant with an initialed copy of the PTO-1449 form filed therewith.

**Allowable Subject Matter**

The Examiner states that claims 3-11 and 14-19 would be allowable if rewritten in independent form.

Applicant thanks the Examiner for the early indication of allowable subject matter in this application. Applicant has chosen not to re-write these claims in independent form, however, because of Applicant's belief that independent claims 1 and 12, from which these claims respectively depend, are allowable for reasons discussed below.

**Rejections under 35 U.S.C. §103**

Claims 1 and 2 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,780,871 to den Boer in view of U.S. Patent 5,808,706 and further in view of U.S. Patent 5,182,661 to Ikeda. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

Initially, Applicant respectfully submits that the rejection is unclear to the extent that it states "Ikeda et al. disclose a thin film field effect transistor array for (sic: for) use in active matrix liquid crystal display where the required contact hole structure in Claims 4 and 6 is disclosed." This rejection is of claims 1 and 2, not claims 4 and 6. Does this portion of the rejection mean that Ikeda discloses in its claims 4 and 6, the contact hole structure recited in claims 1 and 2 of this Application?

Clarification is respectfully requested.

Applicant also notes that in the Amendment filed on February 25, 2004, Applicant presented detailed arguments that traversed essentially the same rejection. The only difference between this rejection and the rejection of claims 1 and 2 under 35 USC §103(a) in the November 25, 2003 Office Action is the substitution of "Ikeda" for "Bae '076." Other than the substitution of "Ikeda" for "Bae '076," the rejections are virtually identical.

The Office Action does not address any of those arguments, which include the following:

1. In the den Boer display device, the individual LCD cells do not employ more than one storage capacitor, as the Examiner concedes. The Examiner also concedes that den Boer et al. do not disclose "the contact hole structure." As a remedy for the deficiencies of the den Boer et al. disclosure vis-à-vis the requirements of Applicant's claims 1 and 2, the Examiner cites the Bae patent for its disclosure of "liquid crystal display devices having cross coupled storage capacitors where the required plurality of capacitors in the required manner is disclosed."

2. The proposed combination of disclosures would not satisfy the requirements of claims 1 and 2 as now presented. There is no disclosure in the Bae patent of at least two storage capacitors disposed between a gate line and a capacitor electrode formed above the gate line. In the LCDs disclosed by Bae, the disposition of the capacitor electrode above the pixel electrode reduces the aperture ratio, whereas, in the LCD disclosed and claimed by Applicant, the capacitance is made greater without reducing the aperture ratio. Also, there is no disclosure in the Bae patent of a gate line connected to the capacitor electrode via a contact hole passing through the at least two storage capacitors. Accordingly, the disclosure in the Bae patent cannot remedy the deficiencies in the den Boer et al. patent vis-à-vis the requirements of claim 1 as amended. In

addition, there is no disclosure in any of the den Boer et al. and Bae patents that can satisfy the specific requirements recited in dependent claim 2.

3. In view of the foregoing discussion, Applicant submits that the den Boer et al. and Bae patents cannot properly serve as a basis for rejecting Applicant's claims 1 and 2 as now presented under 35 USC §103.

MPEP § 707.07(f), entitled, "Answer All Material Traversed," clearly states that, in order to provide a complete application file history and to enhance the clarity of the prosecution history record, an Examiner must provide clear explanations of all actions taken by the examiner during prosecution of an application. It continues by stating that, where the requirements are traversed, or suspension thereof requested, the Examiner should make proper reference thereto in his or her action on the amendment, and that where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it.

By failing to treat Applicant's arguments traversing the rejection of these claims with respect to "den Boer" and "Bae" on their merits, which are equally applicable to the outstanding rejection, Applicant has been denied fundamental substantive and procedural due process as required by the Administrative Procedures Act. See in this regard, In re Zurko, 119 S.Ct. 1816, 50 USPQ2d 1930 (1999), and In re Gartside, 53 USPQ2d 1769 (Fed. Cir. 2000).

Accordingly, this rejection is fatally defective and should be withdrawn.

Turning to the newly applied reference, Ikeda, which is applied substantially in the same way as was the “Bae et al.” patent in the previous rejection, Applicant respectfully notes that the Office Action merely concludes that Ikeda discloses the recited contact hole structure. As noted above, it is unclear whether the Office Action is referencing claims 4 and 6 of Ikeda to allegedly disclose the recited contact hole structure. Nevertheless, Applicant has reviewed the Ikeda reference and is unable to find the recited contact hole structure.

Ikeda’s Fig. 3B discloses contact hole structure, including contact hole 66 that is used to electrically connect pixel electrode 22 to first storage capacitor electrode 60. Ikeda’s Fig. 3B also discloses a contact hole 64 that is separate and distinct from contact hole 66, that is used to electrically connect second storage contact electrode 62 to gate bus line 10.

To be fully responsive to the outstanding Office Action, Applicant will discuss the rejection in the context that it is made based on claims 4 and 6 of Ikeda.

Claim 4 of Ikeda only recites one contact hole used to connect a gate bus line to a first level capacitor electrode. Claim 6 of Ikeda recites a fourth level capacitor electrode which is an extension of the gate bus line extending underneath the first level capacitor electrode. Nothing is said in claim 6 about a

contact hole.

Claim 1 recites a combination of features, including a “gate line being connected, via a contact hole passing through said at least two storage capacitors, to the capacitor electrode.

Applicant does not understand how what is disclosed in Fig. 3B of Ikeda and/or what is recited in claims 4 and 6 of Ikeda is what is recited in claim 1. For example, in Ikeda, the gate bus line 10 is only connected to the second storage capacitor electrode 62 by the contact hole 64, which does not pass through two storage capacitors disposed between the gate line and the second storage capacitor electrode formed above the gate line.

So, even if Ikeda were combined with den Boer and Bae, the resulting reference combination would not render the claimed invention obvious.

Applicant respectfully submits that merely that the prior art can be modified in the manner suggested by the Examiner does not render the modification obvious unless the prior art suggests the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-4 (Fed. Cir. 1992). As neither applied reference even suggests all of the features of the claimed invention, the motivation for modifying Koike to include such a feature must be based on speculation and/or impermissible hindsight.

With respect to the issue of motivation to combine the applied references, Applicant respectfully submits that the Office Action also fails to establish proper motivation to combine these two references.

A showing of a suggestion, teaching, or motivation to combine the prior art references is an “essential evidentiary component of an obviousness holding.” C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232(Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not “evidence.” See In re Dembiczak, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

Applicant respectfully submits that the Office Action fails to provide objective evidence of proper motivation to combine these references as suggested.

Moreover, the Office Action merely concludes that it would be obvious to combine the three applied references “in order to have a liquid crystal display device with higher performance,” and fails to provide any objective evidence of why combining these references would result in higher performance.

A factual inquiry whether to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. Compare In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir.

2002). Unfortunately, all that are provided in this regard is the conclusory statement about achieving “higher performance”.

Furthermore, this statement of attempting to achieve a liquid crystal display device of higher performance is not clear and particular, but is nothing more than a broad conclusory statement about the teaching of multiple references, standing alone and, as such is not “evidence” of proper motivation to combine these references. See *In re Dembiczak*, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

For the aforementioned reasons, Applicant respectfully submits that this rejection of claims 1 and 2 under 35 USC 103(a) as unpatentable over den Boer in view of Bae and further in view of Ikeda is improper and should be withdrawn.

Claims 12 and 13 stand rejected under 35 USC §103(a) as unpatentable over U.S. Patent 5,796, 448 to Kim in view of U.S. Patent 6,057,896 to Rho et al. (hereinafter, “Rho”) and further in view of Ikeda. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

Initially, the rejection is unclear to the extent that it states “Ikeda et al. disclose a thin film field effect transistor array fur (sic: for) use in active matrix liquid crystal display where the required contact hole structure in Claims 4 and 6 is disclosed.” This rejection is of claims 1 and 2, not claims 4 and 6. Does

this portion of the rejection mean that Ikeda discloses in its claims 4 and 6, the contact hole structure recited in claims 1 and 2 of this Application?

Clarification is respectfully requested.

Applicant also notes that in the Amendment filed on February 25, 2004, Applicant presented detailed arguments that traversed a rejection that is identical with respect to the discussion and application of the Kim reference and quite similar with respect to the Rho references. A difference between this rejection and the rejection of claims 1 and 2 under 35 USC §103(a) in the November 25, 2003 Office Action is the substitution of "Ikeda" for "Nishikawa et al."

The Office Action does not address any of those arguments, which include the following paragraph:

The Examiner concedes that the Kim patent does not "disclose the required protective layer/contact hole and the required gate insulating layer in the required manner." The Examiner has not provided a clear identification of disclosures in the Kim and Rho et al. patents that correspond with steps recited in Applicant's claims 12 and 13. Applicant trusts that the Examiner will recognize that the vagueness of the rejection unfairly places Applicant in the position of having to speculate as to the specific disclosures in these patents that the Examiner regards as meeting the requirements of Applicant's claims under 35 USC § 103.

Applicant respectfully submits that this vagueness, discussed in the arguments traversing the rejection of these claims over two of the presently applied references, and a third reference that differs from Ikeda, has not been corrected in the outstanding rejection.

Applicant also notes that the body of the rejection of claims 12 and 13 merely relies on Rho to disclose a liquid crystal display using organic insulating material for a passivation layer and/or a gate insulation layer – see page 3 of the Office Action. Thus, Rho is no longer applied for a disclosure of a particular contact hole feature, as it was in the previous rejection. Rho is only relied on in this rejection for a disclosure of an organic insulating material as a passivation layer and/or a gate insulation layer. Accordingly, this reply focuses on Ikeda for the contact hole feature instead of on Rho.

Claim 12 recites “defining at least two contact holes to expose the gate line.” The Office Action does not point out where Ikeda (now the only one of the three applied references relied on in the rejection to allegedly disclose the recited contact hole structure) discloses this feature, and Applicant has been unable to find it in Ikeda. Ikeda appears to only disclose one contact hole 64 to expose the gate line 10 – see Fig. 3B. Moreover, claims 4 and 6 of Ikeda only recite one contact hole to connect the gate bus line to the first level capacitor.

Accordingly, even if all three references were somehow combined, they would not result in, or render obvious, the claimed invention.

Moreover, Applicant respectfully submits merely that the prior art can be modified in the manner suggested by the Examiner does not render the modification obvious unless the prior art suggests the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-4 (Fed. Cir. 1992). As neither applied reference even suggests all of the features of the claimed invention, the motivation for modifying Koike to include such a feature must be based on speculation and/or impermissible hindsight.

With respect to the issue of motivation to combine the applied references, Applicant respectfully submits that the Office Action also fails to establish proper motivation to combine these two references.

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Applicant respectfully submits that the Office Action fails to provide objective evidence of proper motivation to combine these references as suggested.

The Office Action merely concludes that it would be obvious to combine the three applied references “in order to have a liquid crystal display device with higher performance and fails to provide any objective evidence of any why combining these references would result in higher performance.

A factual inquiry whether to modify a reference must be based on objective evidence of record, not merely conclusory statements of the Examiner. See, In re Lee, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). Unfortunately, all that are provided in this regard is the conclusory statement about achieving “higher performance”.

Furthermore, this statement of attempting to achieve a liquid crystal display device of higher performance is not clear and particular, but is nothing more than a broad conclusory statement about the teaching of multiple references, standing alone and, as such is not “evidence” of proper motivation to combine these references. See In re Dembiczak, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617 (Fed. Cir. 1999).

For the aforementioned reasons, Applicant respectfully submits that this rejection of claims 12 and 13 under 35 USC 103(a) as unpatentable over Kim in view of Rho and further in view of Ikeda is improper and should be withdrawn.

**Additional Cited References**

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment need be made with respect thereto.

**Conclusion**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Robert J. Webster, Registration No. 46,472, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit

Application No.: 10/024,178  
Art Unit 2826

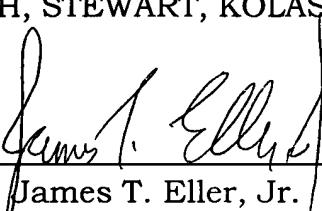
Attorney Docket No. 2658-0277P  
Reply to May 20, 2004 Office Action  
Page 15

Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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